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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,951	04/25/2002	Esko Hanninen	540.004.003	1715

4955 7590 05/03/2004

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EXAMINER

ANDREWS, MELVYN J

ART UNIT PAPER NUMBER

1742

DATE MAILED: 05/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/980,951

Applicant(s)

HANNINEN ET AL.

Examiner

Melvyn J. Andrews

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-10 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 25 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 051201.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The disclosure is objected to because of the following informalities: the reference to Claim 1 on page 2 is indefinite.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 does not clearly recite the steps of the process the expression "to floatation" on line 14 is not an active step.

Claim 1 recites the limitation "the sulphide minerals from silicate and other refuse minerals and the liberated precious sulphides " in lines 3, 4 and 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "(EM2) " in line 13. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 1, the phrase "being preferably in the range 100%-10mm... 100%-0.5 mm renders the claim See MPEP § 2173.05(c) I. Narrow and Broader Ranges in the Same Claim.

Claim 2 recites the limitation "coarse material" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 3 and 7, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 10 is indefinite because the expression "means of dissolution" is not an active step.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

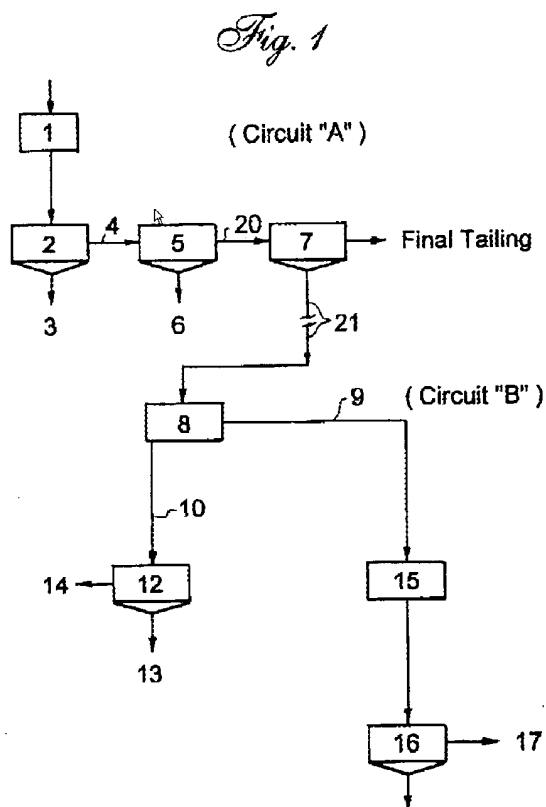
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 rejected under 35 U.S.C. 103(a) as being unpatentable over Bulatovic et al (US 5,693,692). Bulatovic et al discloses a process which relates to mineral separation of valuable metals by froth flotation as shown in FIG. 1.



The process is described in Example 4 and TABLE 4 (col.7, line 23 to col. 8, line 52). As shown the ore is ground in a grinding plant (1) the pyrrhotites were treated in Circuit A, the residues or tailings (3) the concentrate (21) was subjected to magnetic separation of Circuit B by first passing through magnetic separator (8). The separated fraction (9) is reground (15) then passed to a magnetic rougher flotation cell (16) to separate the pentlandite from the pyrrhotite see TABLE 4 Mag.Conc(18) and Mag.Tail(17) which are obviously equivalent to the claimed steps of comminuting, separating by magnetic means, additional grinding and delivering to floatation.

With respect to Claim 2 Bulatovic et al discloses tailing of scavenger (7) is a final tailing and is hence discarded (col.7, lines 53-55) is equivalent to the claimed "coarse material is removed".

With respect to Claims 3 and 7 Bulatovic et al disclose the separated magnetic fraction (9) is reground (15) and is then passed to a magnetic rougher floatation cell (16) which is equivalent to the claimed magnetic concentrate is additionally ground ; also the size of the FINAL TAILING (7) being discarded would be expected to be less than the starting material which is ore ground to a fineness of 55% passing 200 mesh Tyler sieve (col.6, Example 2) which is ground prior to flotation as shown in Fig 1. .

With respect to Claims 4, 5, 8 and 9 , Bulatovic et al discloses the separated magnetic fraction (9) is reground (15 and is then passed to rough floatation cell 16 in view of which the claimed "means of rough floatation techniques" and "intermediate grinding" are regarded as obvious in view of Bulatovic et al.

Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bulatovic et al (US 5,693,692) as applied to claims 1 to 5 and 7 to 9 above, and further in view of Norrgran (US 4,541,993). Bulatovic et al does not explicitly disclose nickel being recovered by means of dissolution but Norrgran discloses the extraction of metal from SULFIDE ORE by FLOTATION CONCENTRATE to form METAL SULFATE SOLUTION resulting in METAL RECOVERY as shown in Fig.1.

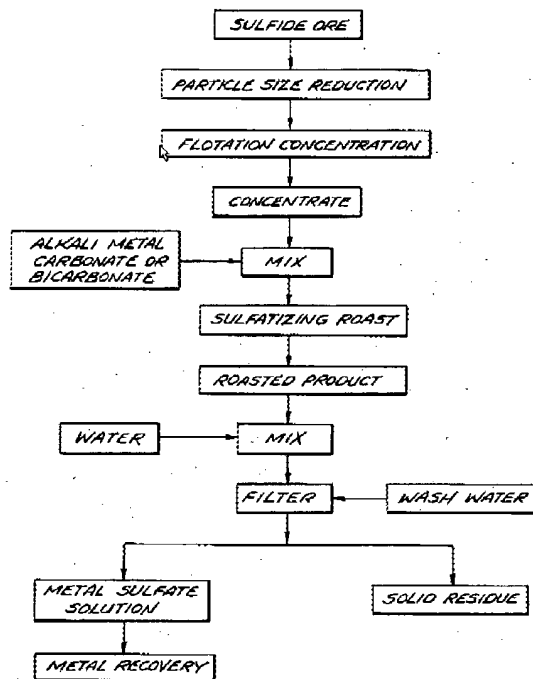


Fig. 1


It would have been obvious to one of ordinary skill in the art at the invention was made to recover metal from the flotation concentrate as recovered by Bulatovic et al by forming a metal sulfate solution as taught by Norrgran in order to recover a metal such as nickel which is being recovered in both cases 9 (see Bulatovic et al TABLE 4 and Norrgran, Claim 2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvyn J. Andrews whose telephone number is (571)272-1239. The examiner can normally be reached on 8:00A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on (571)272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mja
April 28, 2004


MELVYN ANDREWS
PRIMARY EXAMINER